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ABSTRACT

This document contains the text of speeches presented in symposia at the April 1973 meeting of the Western Psychological Association held in Anaheim, California. "The Social Psychology of Change in Educational Institutions" and "Psychology as the Foundation for Elementary School Career Education Curricula" were the theme titles of the symposia. Presentations included: (1) "The AIR Career Education Curriculum" by Lauri Steel, (2) "Measuring Dispositions Toward The Implementation Of Career Education In The Classroom" and "Implementation Strategies for Educational Change" by Robert Kaplan and David Gross, and (3) "The Application Of Selected Psychological Principals to Career Education" by John Kroll. (SN)

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PAPERS ON A CAREER EDUCATION CURRICULUM

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July 1973

AMERICAN INSTITUTES FOR RESEARCH

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PAPERS ON A CAREER EDUCATION CURRICULUM

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I. THE AIR CAREER EDUCATION CURRICULUM

Lauri M. Steel
American Institutes for Research

The Career Education Movement

The particular innovation to be considered is a comprehensive career education curriculum for grades K-9. In 1971, Sidney Marland, newly appointed Commissioner of Education, designated career education as one of the major emphases of the U. S. Office of Education for the decade of the seventies. Since then, numerous efforts have been initiated aimed at creating and implementing career education programs.

Career education is defined as those gradual and cumulative activities and experiences designed to develop knowledge and skills through which individuals may fulfill their own unique needs regarding occupational choice, social responsibility, leisure activity, and personal development. Career education, then, can be viewed as a cumulative, life-long process which is important for all individuals. However, "career" is seen as the aggregate of one's vocational, avocational, leisure, social, and personal commitments (Begle, Dunn, Kaplan, Kroll, Melnotte, & Steel, 1973.)

Career education, then, differs from most vocational guidance, vocational education, and vocational training programs that schools have previously offered. Unlike these traditional programs, career education does not focus exclusively on one's occupational future, it is not intended for only non-college bound students, it does not attempt to prepare students for a specific occupation or job, and it does not necessarily end when one graduates from high school.

The American Institutes for Research (AIR), in cooperation with six school districts, has been charged with the task of developing a career education curriculum for grades K-9. Our objective is "the design and development of a comprehensive career education curriculum that will be sufficiently detailed, yet flexible enough, that it can be used easily

in the majority of typical elementary and junior high school classrooms without special administrative accommodations [Dunn, 1972, p. 1]." Thus, we are not developing a complete package of instructional materials but, rather, we are defining a comprehensive curriculum which local schools can adapt to their own needs. In addition, we are also developing materials and procedures to facilitate the implementation of the curriculum. It is this concern with implementation that will be dealt with in this symposium.

Goals and Scope of Curriculum

The primary goal of this curriculum is to help students acquire the necessary base of information and skills which will facilitate their career-related decisions, such as decisions about part-time jobs or decisions regarding post-high school plans. In this way the curriculum can interface with existing programs having more specific focuses, such as work-experience programs.

The information base which students in the career education curriculum would develop includes information about themselves and about potential career options. In the former area, students are assisted to explore their own characteristics--their interests, abilities, values, and the like. In the latter area, students acquire information about options and roles relating to occupations, social responsibility, leisure activity, and personal development.

The skills students would develop include decision-making based on information about personal characteristics and about alternative options, exploring career options in depth, formulating tentative short- and long-range career goals, and strategies of planning for and pursuing career goals.

Together, these components of the curriculum provide students with the information and skills necessary for making informed, career-related decisions. In this way students' chances of making decisions leading to satisfying and self-sustaining roles within society are maximized.

Specifications for the Curriculum

There are four general guidelines being followed in developing this curriculum which would influence the ease with which the curriculum can be adopted. First, the curriculum is designed to be integrated into regular classroom instruction. Rather than treating career education as yet another subject to be taught, it will be fused into other areas of instruction currently offered. For a simple example, information about such occupations as policemen and firemen could be taught within a social studies unit on the city. Similarly, in math, problems presented could relate to real-world situations, such as the use of math in maintaining financial records. This fusion will provide practical illustrations of the importance of schooling for later life.

The second major characteristic of the curriculum is its flexibility. AIR has focused its efforts on identifying the content and skills comprising the curriculum and developing a comprehensive pool of approximately 2,000 instructional objective relating to that content and those skills. In addition, it is specifying alternative strategies for implementing the curriculum in the classroom. The teacher can select those objectives which are most relevant to the subjects she is teaching or to the interests of her students, and she can determine her own strategy for teaching the objectives. The curriculum, then, might be implemented in as many different ways as there are teachers offering it. Teachers are not compelled to use a specific set of materials or follow specified procedures.

A third characteristic of this curriculum effort which should be noted is its inclusion of staff development. In addition to defining the curriculum and possible strategies for implementing it, attention will be given to training teachers and administrators in skills for implementing the curriculum, such as selecting objectives for implementation, developing individualized instructional materials, and the like.

The final characteristic affecting the ease of implementation of the curriculum is the fact that it draws upon resources already available to the teacher. Community agencies, such as chambers of commerce, school and city libraries, and civic groups can provide a wealth of material at

little or no expense. Similarly, many school districts have rather extensive resource centers which teachers can use. The emphasis will be upon utilizing these available sources, rather than expensive audio-visual and/or computer-supported materials.

Products Being Developed

In addition to defining the curriculum and developing procedures for training teachers and administrators, four specific products also are being developed to assist school personnel in implementing career education. The first product was a comprehensive review and annotated bibliography of literature and materials relating to career education. This document serves as a master reference for teachers and curriculum developers.

The second product is a curriculum design and instructional objectives catalog. This document presents an overview of the entire curriculum and lists the approximately 2,000 instructional objectives comprising the curriculum.

The third product is a set of curriculum guides for teachers' use in the classroom. Separate guides are being developed for teachers at the K-3, 4-6, and 7-9 levels. Each guide contains the specific objectives targeted for the particular grade range plus text on the goals of career education, strategies for implementing the curriculum, sample learning materials and activities, and potential resources. This guide will form the basis for teacher and administrator training activities as well as serve as a classroom resource.

The final product will be a set of sample modules, or learning units, demonstrating how career education may be incorporated in various ways and at various levels.

Implications of the Curriculum for Change in Educational Institutions

Gross, in his book Implementing Organizational Innovations: A Sociological Analysis of Planned Educational Change, identified four major factors

which influence change in educational institutions, as follows (Gross, 1971):

- the degree of awareness and understanding of the proposed change,
- the degree of commitment to and motivation about the change,
- the capability to carry out new roles required by the change, and
- the availability of necessary materials.

Given a particular change--the adoption of a career education curriculum--what must happen for that change to occur?

The materials being developed for school personnel to use in implementing the curriculum have already been described. However, the remaining factors--those associated with the attitudes and skills necessary to support and sustain such a change--should be briefly reviewed.

Although career education is a popular term in educational circles today, there are several opinions regarding just what career education does and does not mean. Many people, particularly parents and others less closely involved with career education, may assume it is simply another name for vocational education, or a program for students not planning to go to college. Still others may think of career education as a fifth subject area, and one for which teachers do not have time. It will be important to determine how people at various levels--including parents, teachers, administrators, and district office personnel--view career education and to take whatever steps necessary to make sure that they understand the goals and nature of career education and the implications of career education for educational practice. If this does not happen, if people do not undertand the goals of career education, then the impact of career education will be negligible.

In addition to understanding the goals of career education, people must be both committed to those goals and motivated to do something about attaining them. Again, this is true for personnel at all levels. It is not sufficient for a school superintendent to decide to adopt a career education curriculum if the teachers and administrators who will be respon-

sible for implementing it are not similarly committed. Without such commitment. it is unlikely that significant change will occur.

Considerable impetus has been provided by the moral and financial support given to career education by USOE. However, the impact of this support is most likely to be felt at the policy-making level. The active involvement and support of people at the school and district levels should also be solicited.

Finally, considerable attention should be given to the problem of staff development, to assist teachers and administrators to develop skills to facilitate the implementation of the curriculum. Attention must be given not only to identifying necessary skills, but also to develop means by which teachers and administrators can be trained in those skills.

In the following presentations you will learn what specific attitudes people presently hold regarding career education and the adoption of a career education curriculum. You will also learn about specific strategies which will be implemented for modifying those attitudes in order to facilitate adoption and implementation of the curriculum.

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II. MEASURING DISPOSITIONS TOWARD THE IMPLEMENTATION OF CAREER EDUCATION IN THE CLASSROOM

Robert M. Kaplan and David E. Gross
American Institutes for Research

The present paper reports an effort to assess attitudes of teachers toward the implementation of curriculum change in schools. Specifically, we wish to report data concerning teacher attitudes toward the implementation of a new career education curriculum.

Career education is a major concern of the Office of Education. It now appears that career education programs are likely to be adopted by many school districts. In recent years, many excellent educational products have not been utilized--perhaps because the product developers did not have a clear cut plan for dissemination. We are developing a dissemination plan concurrently with the development of a curriculum. In the development of our plan, we feel it is important to consider the attitudes of teachers.

A pair of unpublished studies conducted approximately a decade ago (cited by Hansen, 1970) show some serious obstacles for the implementation of career education. Anonsen (1961) and Norman (1963) observed that teachers did not perceive career choices to be important concerns of their students. The students, however, felt vocational decisions were an important problem facing young people. In these studies many teachers considered career related activities to be intrusions upon their time. Other teachers commented that career related units may be appropriate "as long as they don't take time away from my class" (Hansen, 1970, p. 138). Thus, it appears that, in the early 1960's teachers did not regard career related instruction as an important or a necessary component of classroom instruction.

A recent survey by Brickell and Aslanian (1972), however, suggests that opinions have changed during the last 10 years. This study demonstrated that

pupils, parents, and teachers all had favorable impressions of career education. The survey was conducted in a variety of American municipalities including: Atlanta, Hackensack, Jefferson County, Los Angeles, Mesa, and Pontiac. Brickell and Aslanian interpreted their results as indicated that curriculum change would be welcomed in each of these locations.

If we are to be successful in implementing our career education program, it will be important to consider the attitudes of those who will be called upon to put the program into practice. The remainder of this paper will illustrate one type of teacher attitude survey that might be used by a school system seriously contemplating the implementation of career education. This study reports the results of such a survey conducted in one of the school districts where our program will be implemented.

Method

The data reported herein were provided by the Santa Clara Unified School District.[1]

Questionnaire

The Santa Clara School District administered the four page questionnaire presented in appendix A. On the first page of the questionnaire was a cover letter which explained the purpose of the study and emphasized that a participant could refrain from participating if he so desired; that there were no established right or wrong answers; and that each participant's anonymity would be assured. Completion of the questionnaire required about 20 minutes.

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[1]We wish to extend our appreciation to Norman Carter, Coordinator of Elementary Curriculum, Santa Clara Unified School District, and to his staff for their cooperation in the distribution and collection of the questionnaires.

Subjects

Questionnaires were sent in packets to all of the 29 elementary and intermediate schools in the district. The head secretary at each school was given the responsibility of distributing a questionnaire to each teacher and one to the principal. The Santa Clara district employs 682 elementary and secondary school teachers and principals. Of these, 373 teachers and principals returned completed questionnaires. The sample represents more than half of the district's population (55%). Most of the respondents were experienced teachers (more than 10 years experience--51.5%; 7-9 years 18.8%; 4-6 years 15.3%). Only 13.1% of the respondents had less than three years experience. Around 4% of the respondents were principals and 3.5% were special educators. Since the numbers of principals and special educators responding were too small for adequate statistical treatment, these data were combined with the teacher data.

The Santa Clara Unified School District provides an educational program for approximately 24,000 students in the city of Santa Clara. The district, comprised of 24 elementary schools, five intermediate schools and five high schools, is located in Santa Clara County, the population center of the San Francisco Bay Area.

Results and Discussion

Perceived necessity of, and level of information about new programs. On the first portion of the questionnaire, teachers were requested to indicate how necessary they believed it would be to develop new educational programs in four areas. These areas include: Drug Education, Ecology Education, Career Education, and Sex Education. In addition, teachers were asked to indicate how well informed they were in each of these four curriculum areas. Responses were recorded on nine point scales where 9 indicated "very necessary" or "very well informed" and 1 indicated "very unnecessary" or "very uninformed." The means and standard deviations for responses to these items are displayed in Table 1. Items which do not differ at or beyond the .05 level are noted by a common subscript.

Examination of Table 1 reveals that teachers regard sex education and career education as less necessary than drug education and ecology education. Perceived necessity of sex education and career education did not differ significantly. All of these curriculum areas were rated toward the "very necessary" pole of the scale.

Teachers considered themselves to be less well informed about career education than they were about any other curriculum areas. These data suggest that our dissemination efforts should begin by providing teachers with information about career education and by explaining to the teachers the necessity of the program.

Table 2 presents a correlation matrix for items concerning perceived necessity and information level about various programs. It seems that teacher responses to the four items concerning necessity of new programs were substantially intercorrelated. Similar responses to the items on information level were highly intercorrelated. However, relationships between perceived necessity and information level appear to be modest.

These data were further analyzed by analysis of variance (ANOVA) with three independent demographic variables. Significant differences were found for the teacher's experience (years of teaching grouped into five categories) on the necessity of sex education ($F_{4,357} = 2.80$, $p<.05$). Less experienced teachers felt that new sex education programs were more necessary than did more experienced teachers. No other differences for teaching experience were found (see Table 3).

The ANOVA of these data with the grade level taught revealed several differences. Grade levels were grouped into the following: K-1, 2-3, 4-6, 7-8, principal, special educator. The ANOVA of necessity of ecology education ($F_{5,363} = 2.32$, $p<.05$) and of sex education ($F_{5,361} = 2.58$, $p<.05$) revealed that principals felt the necessity of ecology education was less than teachers, and that intermediate school teachers (7-8) felt that sex education was more necessary than did other teachers or principals. The grade level also distinguished between the information level of respondents about career education

($F_{5,366} = 3.80$, $p<.005$) and about sex education ($F_{5,365} = 5.05$, $p<.001$). In both cases, the teachers of lower grades are less well informed than teachers of upper grades (see Table 4).

Finally, the schools from which respondents replied indicated differences on several of these items. The schools sampled and response rates from each are given in Table 5. Significant differences between schools were found for the necessity of drug education ($F_{28,338} = 1.63$, $p<.05$) and of sex education ($F_{28,338} = 2.07$, $p<.005$) and a marginally significant result for career education ($F_{28,338} = 1.47$, $p<.10$). The level of information about career education ($F_{28,343} = 1.88$, $p<.01$) and about sex education ($F_{28,342} = 1.73$, $p<.025$) also showed differences among schools (see Table 6).

These results indicate that career education is considered less necessary than other new programs and teachers are less well informed about it. There are differences in these findings based on the years of teaching and the school at which the teacher is located. Clearly, this information will be of value in choosing the schools and personnel for pilot field testing of the career education curriculum. It should be noted that some schools showed low levels of response (see Table 5) making the generalizability of the results to that school rather questionable. The lack of response itself may indicate a lack of interest in career education or new curricula in general.

Career Education Attitudes

Following the questions on necessity and information level were 10 attitudinal items about career education. Several of these items were taken from the study by Brickell and Aslanian (1972).

Intercorrelations of the 10 items were computed across all 373 respondents. Principal components of the correlation matrix were then obtained (using estimated communalities along the main diagonal and iterations to improve the estimates). The four largest unrotated factors were then orthogonally rotated by the varimax method.

Results of the analysis revealed that one factor accounted for 64% of the common variance in response scores. Thus, it appears the items which were presented to the teachers can, for the most part, be represented by a single attitudinal dimension. We believe the factor represents a global attitude toward career education. The mean and standard deviation response to each item are shown in Table 7. In general responses to these items indicate attitudes of teachers are favorable for career education. In particular item 17, "Career education's purpose is to help students make realistic career choices," shows a high level of agreement. Items 12, 9, 13, 11, 10, 15 also show highly favorable attitudes. Item 16 indicates less favorability since the mean was closer to the neutral point of the scale.

A close look at the remaining two items reveals certain areas teachers may be confused about. Item 14 states, "Career Education is just another name for vocational education." The mean response for this item was near the neutral point in the scale and the standard deviation was larger than for any other item. These data may indicate that teachers are not certain about the conceptual distinction between career and vocational education. Item 18 also indicates possible confusion or doubt, since respondents weren't sure if career education could make their courses more meaningful and relevant, as shown by a low mean and high standard deviation. Intercorrelations of the items are shown in Table 8 and the factor analysis is summarized in Table 9.

As before, these attitudinal data were analyzed by ANOVA with three demographic variables. There were no significant differences found for the experience of the teacher. The grade taught by the teacher distinguished between responses on item 18, about the effect of career education on the relevance of courses taught. Teachers in the higher grades agreed more with this statement than did those in the lower grades ($F_{5,356} = 4.45$, $p < .001$) as shown in Table 10.

Differences between schools were found on three items, as follows (see Table 11): Item 13, effects on the dropout rate ($F_{28,340} = 1.93$, $p < .01$); Item 17, career education's purpose ($F_{28,340} = 1.62$, $p < .05$); Item 18, increasing course relevance ($F_{28,333} = 1.67$, $p < .05$).

A global measure of favorable attitude toward career education was constructed by summing scores on items 10, 11, 13, 15, 16, 17, and 18. These were chosen because of their high loadings in the factor analysis and their highly significant intercorrelations. Items 11 and 16 were recoded so that a high number indicated strong disagreement, because this response was consistent with a favorable attitude toward career education. Thus, the global measure varied from a possible low score of 7 to a possible high score of 63, with the higher number indicating more favorability toward career education. The ANOVA revealed significant differences between schools ($F_{28,343} = 1.72$, $p < .025$) on this measure (see Table 12).

All of these data indicate that schools vary in their specific attitudes and their general favorability toward career education. It should be noted that the global measure of favorability showed a lowest score for any school of 35.0, which is the midpoint of the scale. Thus, although schools differ in their favorability, no school was unfavorable, at least as represented by our sample of respondents.

Obstacles to Implementation

The next section of the questionnaire presented the respondent with a list of potential obstacles to the implementation of new ideas or materials in the classroom. The teachers were to indicate their opinions using a nine point continuum where 1 would indicate "not at all" and 9 would indicate "very much." The potential obstacles and the means and standard deviations for responses to these items are given in Table 13. It appears that "school monetary limits" and "limited classroom time" are perceived as the greatest obstacles to implementation.

Method of Implementation

The final portion of the questionnaire presented the respondent with a list of implementation methods. When asked what was the traditional method for implementing new teaching ideas in their district, the largest proportion of the

teachers (42.2%) cited manuals or teachers guides. Teacher training workshops were also noted by a substantial number of teachers (31.8%) as a commonly used method.

It appears that teachers do not regard as most effective, the method cited most frequently as the one their district traditionally uses. Our data also suggest that teachers would prefer other methods for the implementation. Besides the aforementioned question, two additional items asked, a) what would be the most effective method; and b) what method the respondent would prefer. For each of these items, the percentage of teachers indicating the various responses are given in Table 14. Examination of Table 14 suggests that teachers prefer teacher training workshops and believe the workshops would be most effective as a means of implementing new programs. The distribution of manuals or teacher guides, which was cited most frequently as the method traditionally employed by the district, was cited least frequently as either the preferred method or the most effective method. In fact, only 2 members of the sample felt that the distribution of teacher guides would be the most effective method. Demonstration classes, cited least frequently as the method employed by the district, were acknowledged by a substantial number of teachers as the most effective method or the preferred method. As you may suspect, cross tabulations revealed a strong relationship between the method teachers thought would be most effective and the method they would prefer.

Summary

An attitude survey was conducted to obtain data on teachers' knowledge and opinions of career education and their views about implementing new programs. The sample of teachers and principals responding indicated generally positive opinions about career education, but some confusion about the characteristics of career education remains. Also, there were differences in favorability of opinion among schools sampled. Finally, the teachers identified the traditional methods of implementing change in the schools as distinct from the methods they feel are most effective or that they prefer.

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Table 1

Means and Standard Deviations for Perceived Necessity and for Information Level About Recent Curriculum Developments

	Question 1: Please rate how necesary it is to develop new educational programs in each of the following areas		Question 2: Currently, how well informed would you consider yourself to be about each of the following areas.	
Curriculum Area	$\bar{X}$	S.D.	$\bar{X}$	S.D.
Drug Education	(1)[a] 7.06	1.95	(5) 5.71	1.83
Ecology Education	(2) 7.27	1.71	(6) 6.05_b	1.72
Career Education	(3) 6.65_a	2.22	(7) 5.10	2.02
Sex Education	(4) 6.70_a	2.08	(8) 6.24_b	1.95

Note - Means with common subscript do not differ at the .05 level of significance. Scores for both questions are based on responses to a 9-point scale. For question 1, 9 = very ncecessary and 1 = very unnecessary. For question 2, 9 = very well informed and 1 = very uninformed.

[a]Numbers in parentheses refer to the item on the questionnaire as listed in Table 2.

Table 2

Intercorrelations of Perceived
Necessity and Information Level Items

Item	1	2	3	4	5	6	7	8
1	1.00							
2	.49****	1.00						
3	.29****	.32****	1.00					
4	.50****	.47****	.44****	1.00				
5	.11*	.10*	.10*	.11*	1.00			
6	.08	.25****	.09*	.12*	.51****	1.00		
7	-.06	-.01	.12**	.06	.32****	.40****	1.00	
8	.05	.03	.14***	.20****	.35****	.42****	.46****	1.00

*p<.05

**p<.01

***p<.005

****p<.001

Table 3

Group Means for Years of Teaching on
Perceived Necessity of Sex Education

Years Teaching	Necessity of Sex Education[a]
Less than one	7.17
1 - 3	7.49
4 - 6	6.98
7 - 9	6.60
10 or more	6.41

[a]Means based on scores on a 9-point scale on which 9 = very necessary and 1 = very unnecessary.

Table 4

Group Means for Grade Level Taught on Perceived Necessity of Ecology and Sex Education and on Information Level about Career Education and Sex Education

Grade Level	[a] Necessity of: Ecology Education	Sex Education	[b] Information About: Career Education	Sex Education
K-1	7.33	6.47	4.48	5.52
2-3	7.00	6.41	5.01	5.93
4-6	7.45	6.49	4.90	6.43
7-8	7.36	7.32	5.64	6.87
Principal	6.13	6.33	6.07	6.53
Other	7.83	7.31	5.62	5.39

[a] Means based on scores on a 9-point scale on which 9 = very necessary and 1 = very unnecessary.

[b] Means based on scores on a 9-point scale on which 9 = very well informed and 1 = very uninformed.

Table 5

List of Schools Sampled and Response Rates

School	Number Sampled	Number Responding	[a]Response Rate (%)
Elementary:			
Bennett	17	9	52.9
Agnew	13	7	53.8
Bowers	24	See note	----
Bracher	26	20	76.9
Braly	27	11	40.7
Briarwood	20	18	90.0
Brown	18	11	61.1
Haman	26	2	7.7
Mayne	17	15	88.2
Hughes	10	3	30.0
Laurelwood	20	15	75.0
Mariposa	19	14	73.7
Millikin	18	See note	----
Montague	22	17	77.3
Montgomery	18	5	27.8
Monticello	20	See note	----
Bollinger McCoy	14	See note	----
Pomeroy	21	16	76.2
Ponderosa	25	9	36.0
Raynor	20	9	45.0

Table 5 (Continued)

School	Number Sampled	Number Responding	[a]Response Rate (%)
Scott Lane	26	12	46.2
Sutter	24	15	62.5
Washington	14	10	71.4
Westwood	15	5	33.3
Intermediate:			
Cabrillo	46	23	50.0
Curtis	35	18	51.4
Jefferson	44	31	70.5
Patrick Henry	41	23	56.1
Wilson	42	3	7.1
Unidentified:			
A	--	6	----
B	--	10	----
C	--	14	----
Others	--	22	----
Total	682	373	54.7

Note--Responses from 3 schools and 22 individuals were returned unidentified; presumably these correspond to the 4 schools from which no respnses were received.

[a]The response rate, in percent, may be artifically low for some schools since some of the unidentified questionnaires may be additional responses from schools from which some identified responses were obtained.

Table 6

Group Means for Schools on Perceived Necessity of Drug, Career, and Sex Education and on Information Level about Career and Sex Education

School	[a] Necessity of: Drug Education	Career Education	Sex Education	[b] Information about: Career Education	Sex Education
Bennet	7.67	6.78	6.33	5.22	5.89
Agnew	8.14	7.71	8.43	6.14	6.00
Bracher	6.84	6.50	6.44	4.65	5.70
Braly	7.27	5.91	7.18	3.73	5.91
Briarwood	6.72	5.72	5.61	4.78	5.72
Brown	7.27	7.36	6.09	5.46	6.73
Haman	5.50	5.50	6.00	6.50	6.50
Mayne	7.67	7.53	7.53	5.73	7.67
Hughes	7.00	6.67	6.33	3.67	2.67
Laurelwood	8.00	6.73	6.71	4.00	6.00
Mariposa	6.43	4.93	6.71	5.79	6.21
Montague	7.53	6.35	6.18	4.71	6.35
Montgomery	7.60	6.80	7.60	5.20	6.20
Pomeroy	6.31	6.00	5.94	4.19	5.13
Ponderosa	7.89	6.78	7.11	3.56	5.78
Raynor	6.89	6.00	6.50	3.63	5.50
Scott Lane	6.82	7.73	6.00	4.83	5.58
Sutter	7.67	5.67	7.27	4.07	5.73

Table 6 (Continued)

School	[a]Necessity of: Drug Education	Career Education	Sex Education	[b]Information about: Career Education	Sex Education
Washington	5.33	5.70	4.10	6.20	7.00
Westwood	8.00	6.40	6.40	5.60	5.40
Cabrillo	7.41	7.59	7.64	5.35	6.78
Curtis	6.78	6.83	7.28	5.50	7.06
Jefferson	7.32	7.03	7.61	5.97	6.48
Patrick Henry	7.50	7.04	6.96	5.30	6.78
Wilson	7.33	6.67	7.67	5.33	8.00
A	5.50	7.83	5.67	5.50	6.50
B	6.60	5.60	6.40	5.40	5.80
C	5.46	7.00	6.71	5.43	6.85
Others	6.78	7.23	6.00	5.64	6.05

[a]On a 9-point scale on which 9 = very necessary and 1 = very unnecessary.

[b]On a 9-point scale on which 9 = very well informed and 1 = very uninformed.

Table 7

Agreement and Disagreement with Attitudinal Items[a]

	Item	$\bar{X}$[b]	S.D.
17.	Career education's purpose is to help students make realistic career choices.	7.44	1.54
12.	You don't need a college degree to be a success.	7.18_{a}	1.99
9.	Most people finish high school not knowing what kind of career they prefer.	7.08_{ab}	1.83
13.	An effective career education program could lower the school dropout rate.	7.05_{ab}	1.85
11.	Career education is just another fad that will soon be forgotten.	$3.00\ (7.00)_{abc}$	2.07
10.	A student's choice of career can be changed by career education.	6.89_{bc}	1.68
15.	If schools were career-oriented, they would be useful to more students.	6.81_{c}	1.85
16.	Elementary school is too early to start learning about careers.	3.84 (6.16)	2.50
14.	"Career education" is another name for vocational education.	$4.48\ (5.52)_{d}$	2.65
18.	Courses in your subject area or grade might be more meaningful and relevant if focused around career objectives.	5.42_{d}	2.40

Note--Scores are based on responses to a 9-point scale on which 9 = strongly agree and 1 = strongly disagree. Scores on items 11, 14, 16 were recoded so that the high score represented an attitude favorable to career education for all the items (i.e., agreement on items 9, 10, 12, 13, 15, 17, 18 and disagreement on items 11, 14, 16); the recoded means are given in parentheses.

[a]Items are listed in decreasing order of magnitude of the means, as recoded to measure favorability to career education.

[b]Means with common subscripts do not differ at the .05 level.

Table 8

Intercorrelations of Attitudinal Items

	9	10	11	12	13	14	15	16	17	18
9	1.00									
10	.27****	1.00								
11	-.10*	-.41****	1.00							
12	.03	.02	.06	1.00						
13	.11*	.38****	-.32****	.09*	1.00					
14	-.03	-.08	.14***	-.12*	.02	1.00				
15	.18****	.40****	-.27****	.14***	.62****	.07	1.00			
16	-.12*	-.19****	.39	-.02	-.29****	.19****	-.27****	1.00		
17	.19****	.30****	-.32****	.08	.34****	-.04	.35****	-.18****	1.00	
18	.00	.27****	-.32****	.02	.35****	-.01	.44****	-.36****	.29****	1.00

* p≤.05
** p≤.01
*** p≤.005
**** p≤.001

Table 9

Summary of Factor Analysis

	Factor			
	I	II	III	IV
Eigenvalue	2.56	.68	.41	.37
Percent of Common Variance	63.6	17.0	10.2	9.1
Factor Loadings of Items:				
Item No.				
9	.04	.51	-.02	.07
10	.35	.54	-.12	-.05
11	-.46	-.28	.41	.35
12	.06	.04	-.08	.39
13	.63	.25	.01	.16
14	.05	-.05	.57	-.17
15	.75	.29	.16	.29
16	-.42	-.04	.41	.07
17	.39	.30	-.09	.01
18	.61	.01	-.11	-.05

Table 10

Group Means for Grade Level Taught on Item 18

Grade Level	Item 18[a]
K-1	4.51
2-3	5.08
4-6	5.49
7-8	5.97
Principal	5.67
Other	7.08

[a]Based on scores on 9-point scale on which 9 = strongly agree and 1 = strongly disagree.

Table 11

Group Means for Schools on Items 13, 17, 18

School	Item 13[a]	Item 17[a]	Item 18[a]
Bennett	5.78	7.67	5.11
Agnew	7.14	8.71	6.71
Bracher	7.20	7.32	5.84
Braly	8.09	7.91	6.27
Briarwood	6.65	6.83	4.83
Brown	7.60	8.00	5.82
Haman	6.00	6.50	5.00
Mayne	7.40	7.07	6.33
Hughes	4.00	5.00	2.33
Laurelwood	8.20	8.07	5.64
Mariposa	6.14	6.79	4.50
Montague	7.77	7.50	4.50
Montgomery	8.00	7.20	3.60
Pomeroy	7.53	7.73	5.67
Ponderosa	5.67	7.00	4.78
Raynor	7.00	6.78	3.13
Scott Lane	8.08	8.08	6.08
Sutter	7.20	7.67	5.73
Washington	7.10	7.20	5.10

Table 11 (Continued)

School	Item 13[a]	Item 17[a]	Item 18[a]
Westwood	6.00	5.80	4.50
Cabrillo	6.57	7.77	5.96
Curtis	6.78	6.89	5.89
Jefferson	6.90	7.71	5.70
Patrick Henry	6.65	7.70	6.61
Wilson	7.33	7.67	6.67
A	8.17	7.83	4.50
B	6.40	7.30	4.20
C	7.29	7.79	4.50
Others	7.27	7.14	5.32

[a]Based on s ores on 9-point scale on which 9 = strongly agree and 1 = strongly disagree.

Table 12

Group Means and Standard Deviations for
Schools on Favorability toward Career Education

School	$\bar{X}^a$	S.D.
Bennett	44.67	4.24
Agnew	51.57	7.39
Bracher	45.70	10.07
Braly	49.73	6.33
Briarwood	44.89	8.84
Brown	50.46	8.90
Haman	43.50	10.61
Mayne	49.60	6.93
Hughes	35.00	5.57
Laurelwood	51.07	7.16
Mariposa	41.29	7.82
Montague	48.65	7.73
Montgomery	45.80	6.50
Pomeroy	48.07	9.66
Ponderosa	41.78	11.45
Raynor	37.00	10.91
Scott Lane	52.17	7.99
Sutter	45.27	7.06
Washington	45.10	9.60

Table 12 (Continued)

School	$\bar{X}^a$	S.D.
Westwood	38.40	6.54
Cabrillo	46.17	12.15
Curtis	44.72	11.27
Jefferson	46.07	9.51
Patrick Henry	47.52	9.83
Wilson	49.67	9.07
A	50.00	8.88
B	41.40	13.92
C	47.29	8.23
Others	45.00	10.55

[a]Mean based on sum of responses to items 10, 11, 13, 15, 16, 17, and 18; items 11, 14, and 16 were recoded so that high score = favorable attitude toward career education. Means vary from possible 7 (unfavorable) to 63 (favorable).

Table 13

Perceived Obstacles for Implementation

Factors	$\bar{X}$	S.D.
Principals' Attitude	4.30	3.22
Teacher's Attitude	4.79	2.97
School Monetary Limits	7.27	2.24
Limited Classroom Time	5.95	2.77
Community Attitudes	4.67	2.30
Parents' Attitudes	4.70	2.50

Note--Higher scores indicate the factor may be more of an obstacle. Scores are based on responses to a 9-point scale.

Table 14

Responses to Items Concerning Methods of Implementation

Item	Method				
	Teacher Training Workshops	Demonstration Classes	Extension Classes	Distributed Manuals or Guides	Other Answers
What is the traditional method of implementing new teaching ideas in your school district?	31.8	3.7	14.4	42.2	8.0
What do you feel is the most effective method?	67.9	22.3	6.1	0.6	3.2
What method would you prefer for implementing career education?	62.7	20.6	10.9	2.4	3.3

Note--All data presented as the percentage of teachers indicating each method.

APPENDIX

Appendix A: Teacher Attitude Questionaire

Santa Clara Unified School District

DR. JAMES R. HOFFNER
District Superintendent

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SANTA CLARA, CALIFORNIA 95052
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RAYMOND D. EDMAN
Assistant Supt., Instruction
NORMAN D. CARTER
Coordinator, Elementary Curriculum

March 30, 1973

Dear Teacher and Principal:

On the following pages are some questions concerning new curriculum areas. We would be very interested in your responses to these items. Please respond to the items according to the directions given on the following pages.

Although we consider this survey to be very important, you are free to refrain from participating. However, your responses will be of great value to us.

This is not a test and there are no right or wrong answers; we are only interested in your opinions. Your anonymity is assured and there is no need to place your name on the form.

Please return the form to your school secretary no later than Thursday, April 5.

Thank you very much, in advance, for your cooperation.

Sincerely,

Norman Carter, Coordinator
Elementary Curriculum

CURRICULUM SURVEY

1. Please rate how necessary you believe it is to develop new educational programs in each of the following areas:

   (Indicate your ratings by placing a mark in the space (: x :) that corresponds to your opinion for each item.)

   Drug Education:

   Very necessary : : : : : : : : Very unnecessary

   Ecology Education:

   Very necessary : : : : : : : : Very unnecessary

   Career Education:

   Very necessary : : : : : : : : Very unnecessary

   Sex Education:

   Very necessary : : : : : : : : Very unnecessary

2. Currently, how well informed would you consider yourself to be about each of the following areas:

   Drug Education:

   Very well informed : : : : : : : : Very uninformed

   Ecology Education:

   Very well informed : : : : : : : : Very uninformed

   Career Education:

   Very well informed : : : : : : : : Very uninformed

   Sex Education:

   Very well informed : : : : : : : : Very uninformed

3. Indicate your agreement or disagreement to each of the following statements:

   a. Most people finish high school not knowing what kind of career they prefer.

   Strongly agree : : : : : : : : Strongly disagree

b. A student's choice of career can be changed by career education.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

c. Career education is just another fad that will soon be forgotten.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

d. You don't need a college degree to be a success.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

e. An effective career education program could lower the school dropout rate.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

f. "Career education" is another name for vocational education.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

g. If schools were career-oriented, they would be useful to more students.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

h. Elementary school is too early to start learning about careers.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

i. Career education's purpose is to help students make realistic career choices.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

j. Courses in your subject area or grade might be more meaningful and relevant if focussed around career objectives.

Strongly agree ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Strongly disagree

4. To what extent do you believe that there are obstacles to implementing an innovative curriculum in the classroom?

Very much ___ : ___ : ___ : ___ : ___ : ___ : ___ : ___ Not at all

(continued on page 4)

5. To what extent would each of the factors listed below be an obstacle to the implementation of new ideas or materials in the classroom, in your opinion?

(Indicate your opinion by placing a number from 1 to 9 next to each item, where 1 = not at all, and 9 = very much.)

_____ Principal's attitude

_____ Teachers' attitudes

_____ School monetary limits

_____ Limited classroom time

_____ Community attitudes

_____ Parents' attitudes

_____ Other; specify: _____

For questions 6., 7., and 8., use the following list of methods of implementation:

1 Teacher training workshops
2 Demonstration classes
3 Extension classes
4 Distributed manuals or guides
5 Other; specify: _____

6. What is the traditional method of implementing new teaching ideas in your school district?

_____

7. What do you feel is the most effective method? _____

8. What method would you prefer for implementing career education?

_____

9. How many years have you been a practicing teacher?

_____ less than 1 year _____ 1-3 years _____ 4-6 years

_____ 7-9 years _____ 10 years or more

10. What grade do you teach? (circle more than one if appropriate)

K 1 2 3 4 5 6 7 8 9

III. IMPLEMENTATION STRATEGIES FOR EDUCATIONAL CHANGE

David E. Gross and Robert M. Kaplan
American Institutes for Research

There exists an extensive literature on the strategies for implementing change (Havelock, 1969; Miles, 1964; Rogers, 1962), even when restricted to educational change. It would be impractical to attempt to review this literature here. Instead, the basic elements of major implementation models are presented as they relate to the implementation of an innovative product in the schools, such as the career education curriculum already described.

The two components of most implementation models are the resource system and the user system. The resource system consists of those persons and institutions that are external to the user system; i.e., the resource system does not implement the innovation, while the user system does implement it. In educational change, the resource system typically includes research and development institutions, governmental agencies, and commercial publishers. The user system includes the school district administrators, principals, and teachers.

Models differ in terms of the relationship between these two components and the relative importance of each. Havelock (1969) has categorized three models of change. The research, development, and diffusion model is one that emphasizes the resource system as the source of the desired change and ignores the user system. The assumption of this model is that once an innovative product is developed and information about its value is disseminated, then the potential users will decide to implement it. This assumption is very questionable, as evidenced by the numerous examples of innovative educational programs that were developed and subsequently ignored (Lippitt, 1965). Clearly, some attention to the process of implementation beyond dissemination of information is necessary for successful adoption of innovations.

The problem-solver model emphasizes the user system as the source of change, with the resource system playing a consultant role (Jung & Lippitt, 1966). The users would identify needs and search for means to meet those needs (Mannebach, 1973). During the search the resource system could be asked for possible programs or products as solutions and the users would consider them for adoption.

The social interaction model emphasizes the resource system as the initiator of change. The relationship between resources and key opinion leaders in the user system is stressed. The resource system provides the innovative product and makes personal contact with the opinion leaders among the potential users. The opinion leaders in turn influence the rest of the user system to adopt the product.

The model that seems appropriate for the implementation of our career education curriculum is a hybrid of the last two models. The resource system is the source of the product and is attempting to implement its use by contact with key user system personnel. At the same time it is recognized that the product will be implemented successfully only if the users come to recognize their need for the product. In order to clarify the application of this general model in an attempt to implement our product, specific phases in the process are discussed next, patterned after descriptions of Rogers (1962) and Beal and Bohlen (1962).

Awareness of the product's existence, interest in its characteristics, and the perception that it fulfills a need are the three goals of a dissemination strategy. It is necessary to decide how one accomplishes these goals by communication. Using McGuire's (1969) analysis of the attitude change process, one needs to consider target characteristics, message factors, and channel factors. The targets or potential users of the curriculum are district superintendants, principals, and classroom teachers. Thus, the targets of our dissemination effort are well educated and above average in intelligence. The literature on the relationship between intelligence and persuasibility is not clear. Evidence indicating intelligent persons are less persuasible exists (Carment, Miles, & Cervin, 1965; Wegrocki, 1934), but research also indicates the opposite (Hovland,

Lumsdaine, & Sheffield, 1949). Hovland, Janis, and Kelley (1953) resolve the conflicting findings in terms of the basis of the persuasive message. Highly intelligent audiences will tend to be persuaded more easily by messages based on impressive logical arguments, and less easily by those based on unsupported generalities or illogical, irrelevant information. Clearly the messages about the product should be based upon specific logical arguments as to its value and its meeting a need.

The content of the dissemination messages should provide enough information for school district personnel to evaluate the importance of the product and the feasibility of implementing it. Ohme (1972) suggests a reasonable set of guidelines for the information that developers should offer when describing a product. The product should be described in terms of what it is, how it was developed, the rationale for its development, and how the district can implement and evaluate it. Details of the financial costs of implementation, patterns of communication between members of the school district during implementation and methods of conflict-resolution should also be given.

Finally, the choice of communication channels must be made. Although not much research has been conducted on channel factors, there is some evidence that opinion leaders' personal contacts influence the adoption of new products more than mass media campaigns (Carlson, 1965; Coleman, Katz, & Menzel, 1966; Menzel & Katz, 1956). Katz and Lazarsfeld (1955) suggested a two-step model that involves mass media to reach opinion leaders, and then personal contact to other potential users. While this model may be an oversimplification (Rogers, 1962; Weiss, 1969) of the process, it does have some data to support it. In summary, the dissemination strategy consists of giving clearly stated useful information by means of mass media and personal contacts to make the school personnel aware of the product, interested in it, and have them feel it is necessary to meet district needs or goals.

The implementation phase of the overall strategy consists of having the school district field test the product on a trial basis, evaluate its effects, and adopt the product if successful. Experience with attempts to implement

innovative programs (NESDEC, 1972; Ford Foundation, 1972) and a survey of teachers' and administrators' opinions (Mahan, 1972) indicate certain practices that can improve the chances of successful implementation. The selection of school personnel for the trial should be based on their interest in the proposed innovation, and if possible they should be volunteers. This would increase the likelihood of their using the product in the classroom, using it as directed, and with enthusiasm. This should increase the chances for successful implementation of the product. Both principals and teachers should be included in the training for use of the product, because the support and understanding of the principal is vital for teachers testing the product's effectiveness. Training methods should include demonstration classes with opportunities for "hands on" experience, rather than being limited only to lectures and "do-it-yourself" manuals. Provision should be made for sharing of ideas and experiences among the staff, such as at special staff meetings, or by distribution of a district newsletter. Upon completion of the trial field test, the evaluation of the product's effectiveness is made. It is important to explain fully to school staff before the trial exactly what record-keeping or observations they are expected to do as part of the evaluation measurement. If the evaluation is positive and the district adopts the product, it is recommended that the staff who were trained for the trial period be used as training staff for the training of the rest of the school district personnel before the wide-scale implementation. These staff members will have valuable suggestions for classroom use of the product based on their experiences and they are likely to be more influential and trusted by their peers who are being trained.

It seems appropriate to close this talk by briefly describing the steps that we have taken thus far to implement our career education curriculum following this proposed model. Information about our project has been disseminated by means of a project newsletter appearing quarterly and news releases. Staff members have made presentations before various professional organizations and groups of school personnel. Contact has been maintained with teachers and administrators who have been involved in developing curriculum materials. As you have already heard, we have analyzed data collected from school personnel to determine their attitudes and preferences regarding the topic of career education and its implementation. These data should be useful for developing future

dissemination messages that can clarify misunderstandings and emphasize the necessity of career education. Also the data should help us plan the methods for training the staff for the trial field test. It remains to be seen how practical the proposed implementation strategy is as we attempt to use it, and also how effective it is in achieving the goal of adoption of the product.

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IV. THE APPLICATION OF SELECTED PSYCHOLOGICAL PRINCIPLES TO CAREER EDUCATION

John Kroll
American Institutes for Research

The staff of American Institutes for Research in Palo Alto is developing a career education curriculum for grades K-9. The project, which is sponsored by the United States Office of Education, is noteworthy, we believe, for three reasons:

1) It is based on a comprehensive definition of career education.

2) It provides for key principles of personal development.

3) It is integrated, both with the usual school subjects and with the life and personality of the child.

This paper elaborates on those three points.

A Comprehensive Definition

Vocational training is of course a staple of the school, but it takes the narrowest possible view of its function: to teach students the skills they need to practice a trade. Vocational education which draws on work in industrial psychology and human engineering, has a broader focus. It gives students information about vocations and tests them to help match them to a career. Both these terms, and the practices they stand for, restrict themselves to preparing students for what is done on the job.

The phrase "career education" has been in use in Washington for a little over two years. Many educators use the term as synonomous with "vocational education." Others go far beyond that. The AIR curriculum has four major aims:

1) To increase students' knowledge of occupations, careers, and avocational options;

2) To increase students' knowledge of themselves, their interests, abilities, and values, and the relationship of those values, interests, and abilities to various career goals:

3) To increase students' judgment and decision-making skills with regard to career goal formulations and life style aspirations; and

4) To present the possibility that all socially-constructive work offers dignity.

Obviously, our implicit definition is broad in several ways. First, it stresses that in choosing a career, you must consider more than what you do on the job. Fulfillment in life also comes from your use of leisure time and your choice of that general but useful term--"life style." If you start to get a complete picture of your interests, abilities, and values, you can use that information to decide what ways your fulfillment will come from your job and in what ways from the other parts of your life. You will be able to think about the ways in which certain careers are compatible or incompatible with your use of leisure, the style in which you want to live, the contributions you want to make to other people.

Second, this definition stresses that planning and decision-making skills are as important as knowledge of occupations. The theory implicit in much previous vocational education was that students picked one career, aimed towards it, and stayed in it. Observers have long realized that this theory is unrealistic. Eli Ginzberg, for example, considers vocational choice "a life-long process of decision-making in which the individual seeks to find the optimal fit between his career preparation and goals and the realities of the world of work [1972, p. 172]." In all education, the trend of the last several years has been away from accumulating information and toward knowing how to use information. This is, of course, the application of Harlow's work on learning how to learn. If career choice is becoming less and less irrevocable, then career education must also emphasize the process of decision-making as much as knowledge of specific careers.

The third point about this definition combines elements of the first two. That is, this curriculum stresses the options available to the student. If, from surveying his interests, abilities, and values, a student concludes that he is more interested in skiing than anything, that he doesn't have the ability to turn professional, and that he doesn't value having a lot of money, he may decide to become a ski bum. That is an option he has open to him, and he should know about it, both its pleasures and its pitfalls. The point of career education should not be to lock students into a particular vocation and way of living but rather to point out all the available alternatives and to help students develop the skills necessary for satisfactory decision-making.

Basic Assumptions of the Curriculum

The broadly defined career education program, as described above, focuses as much on the individual student--on who he is--and who he may become as it does on knowledge of and preparation for the world of work. In focusing on the student, the program will make use of several learning considerations, psychological techniques, and principles of personal development.

Learning considerations to be encouraged will include explicit behavioral objectives, rapid feedback, and individualization of instruction.

- The purpose of explicit objectives, of course, is to insure that student performance can be observed and measured. Because objectives focus on the outcomes rather than the means of instruction, they give the teacher maximum flexibility in determining how to implement the curriculum and match it to individual classes and students.

- The purpose of rapid feedback is to tell the child at each step whether he has mastered the objective. This feedback help allows him to determine his future learning course.

- Individualization is crucial in a program which is aimed at showing each child what he can do with his own life. This principle should be built into the curriculum at every possible step.

Techniques from social psychology provide useful means for teaching career education.

- The technique of modeling can be used as students observe workers in various occupations and put what they learn to use in analogous classroom activities; e.g., students who learn what a journalist does can write up news stories for their classroom bulletin boards.

- Role playing is another device useful for giving children the feel of various occupations and ways of life.

- Because getting along with other people is an essential part of most work situations, knowledge of and practice in small group dynamics is useful in helping students deal with the kinds of problems they face both in their present and adult lives.

- Another useful technique is social contrasting. The power of social contrasts, mutually agreed on, is well known, and as extrapolation from this, there has been an increasing awareness that students are more enthusiastic learners if they are allowed to manage the responsibilities of their school day or school week, through practices such as the short-term personal learning contract. These practices derive from the combined theories of the developmental and clinical psychologists.

- Finally, the technique of peer counseling, an adaptation of peer teaching, can be useful in giving students feedback about their skills and abilities. Such feedback is necessary to suggest ways those skills can be used as children grow up and as adults.

Finally, two principles of personal development--self-concept and self-actualization--are a central part of a career education program. One reason career education is important is that it offers a chance to make the development of concepts an explicit, crucial part of the school program.

Psychological Growth Through a Career Education Curriculum

Before explaining how a career education curriculum can foster development of self-concept and self-actualization, let me outline the organization of the AIR curriculum. It has four major strands: knowledge of self, knowledge of opportunities and options, planning and decision-making, and goal pursuit. Each of these strands is composed of areas. The major areas of the curriculum include: individual differences and assessment, knowledge of self, education and training, jobs and employment, social responsibility, leisure, status assessment, options analysis, personal planning, and goal pursuit. Each of these areas is further broken down into topics; for each topic there are a number of concepts; and for every concept there is a group of behavioral objectives.

As the list of areas makes clear, a sizable part of this curriculum deals with the child's discovery of who he is. The curriculum calls for the child to assess his interests, abilities, and values; it asks him to investigate the way he reacts to events, his style of work and play, his personal preferences; it suggests how to get supplementary information about himself, through direct experience, feedback from others, and test scores. The purpose of this is to develop self-awareness which the child can use in his present and future stages.

At present, the elementary school curriculum deals largely with knowledge about things outside the student. The development of self-identity takes place, but it takes place indirectly, for example as the child finds out his score on a test, counts the number of valentines he receives, or sees in what order he is chosen for the baseball team. Within the curriculum, development of identity may come about as a child is asked to compare himself to a character in a story, or asked to decide what he would do in a certain historical situation. By and large, though, the child does not confront his identity explicitly and systematically. The career education curriculum allows him to do this.

Of course, explicit confrontation with one's identity is not likely to be beneficial if the identity seems bad. Because career education concerns the world outside the school, it gives sanction to a wide variety of skills and

abilities, compared with the narrow range of talent usually approved by the school. Too often, we know, the only elementary school children who feel worthwhile in school are the academically talented. When children are asked to examine their abilities and values and compare them with others', two purposes are served. First, it becomes clear that all people have skills and abilities, even if those talents do not find rewards in the conventional curriculum. Second, by linking present skills to possible occupations, it becomes more apparent that the school is not the whole world, that there is a place for people who do not shine in school.

The analogy of this process with therapy is clear: both try to show the patient, or student, who he is. But therapy is used after damage has already taken place. Without putting forth extravagant claims, it is hoped that the aspect of career education just described may help to develop positive mental health, to serve as a preventive rather than cure.

A second way career education may promote psychological growth is through giving the student a sense of agency--that is, a sense that he can control his life. The need for this is apparent. We all know people who drifted into a career, a marriage, a way of life without planning for it or wanting it. They based their decisions, as one writer put it, "on dreams, fantasy, rumor, circumstance, tradition, and other unstudied foundations [Melnotte, 1973, p. 1]." The result of this process, as we are seeing more and more, is a sense of frustration, despair, alienation. We see this in the suburbs, as people wonder if their way of life is really what they bargained for when they took their first job, and we see it in the ghetto, as people give up because they see no way out. It is impossible, of course, for any curriculum to solve these problems, but it does seem possible to give people a sense of awareness of what they want from life and a sense that they can set realistic goals and reach them.

The means of doing this in a career education curriculum include asking students to become aware of modifiability; that is, of ways they have changed, ways they differ from older and younger people, ways they will change through

experience, through biological and psychological development, and through conscious effort. It also comes through focusing on goals: the desirability of goals, awareness of personal goals, and analysis of how one's goals come both from within one's self and from family, friends, and community values. The natural next step is to link awareness of modifiability and knowledge of goals with information about training. Through this process, self-actualization can come about.

The value of this, of course, is that children who understand who they may become and some ways to become that person may find greater fulfillment than those whose lives evolve from haphazard planning. The value of career education is that it helps make that planning systematic instead of circumstantial.

An Integrated Curriculum

The envisioned curriculum does not make career education a new subject, separate from the usual ones. One reason for this is practical: the difficulty of placing a new and separate subject matter in the elementary education. Beyond that, it seems artificial to box off career education in its own separate time period. For career education to have maximum impact, it should become part of the usual curriculum. Guides for infusing career education into language arts, social studies, science, and mathematics are being developed.

Such an infusion will affect the school in two ways. First, it will cause traditional subject areas to be related to the student's present and future use of them; this is in contrast to the usual practice where the child learns about the subject content as content. Second, the emphasis on the processes of self-identity and self-actualization, with what we believe are the positive mental health benefits of those processes, may help the schools become more individualized, less rigid, and more human than they often are.

The effect on the child will also be two-fold. As a child develops, career education has a chance to make his present situation more relevant to his whole personality--this through an understanding of his identity. Second, career

education will benefit the student as he grows up. It is not assumed that this career education can lead those it reaches to some Utopia. We do hope though, that it will help people, as an adult looking back put it, "maximize their minimum regret."

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